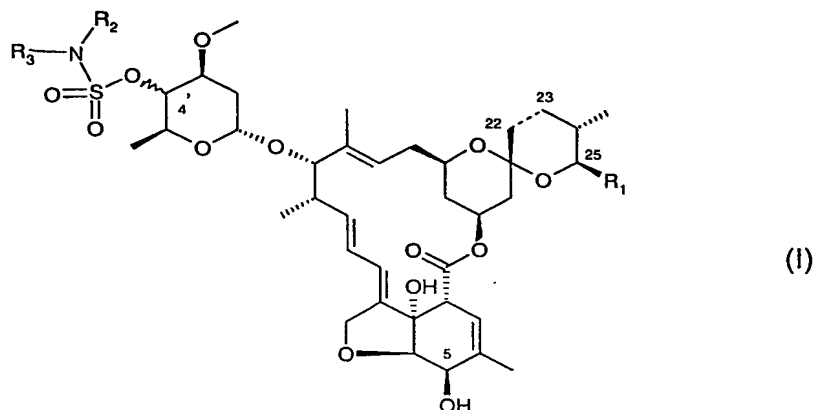


What is claimed is:

1. A compound of formula



wherein the bond between carbon atoms 22 and 23 may be a single or a double bond;

5 R_1 is C_1 - C_{12} alkyl, C_3 - C_8 cycloalkyl, or C_2 - C_{12} alkenyl;

R_2 and R_3 are independently of each other hydrogen, C_1 - C_{12} alkyl, C_3 - C_{12} cycloalkyl, C_2 - C_{12} alkenyl, C_2 - C_{12} alkynyl, aryl or heteroaryl; wherein the C_1 - C_{12} alkyl, C_3 - C_{12} cycloalkyl, C_2 - C_{12} alkenyl, C_2 - C_{12} alkynyl, aryl and heteroaryl radicals may be unsubstituted or mono- to penta-substituted; $-C(=O)R_4$ or SO_2R_4 ; or

10 R_2 and R_3 together are a three- to seven-membered alkylene bridge or a four- to seven-membered alkenylene bridge wherein one or two CH_2 groups in the alkylene or alkenylene may have been replaced by O, S or NR_5 ; or are a group $=N^+=N^+$;

and wherein the substituents of the alkyl, alkenyl, alkynyl, alkylene, alkenylene, cycloalkyl, aryl and heteroaryl radicals defined under R_2 and R_3 are selected from the group

15 consisting of OH; =O; SH; =S; $-NH_2$; CN; NO_2 ; halogen; C_1 - C_{12} alkyl; halo- C_1 - C_2 alkyl; C_1 - C_{12} alkenyl; C_2 - C_6 alkynyl; C_3 - C_8 cycloalkyl which is unsubstituted or substituted by from one to three methyl groups; norbornenyl; C_3 - C_8 cycloalkenyl that is unsubstituted or substituted by from one to three methyl groups; C_3 - C_8 halocycloalkyl; C_1 - C_{12} alkoxy; C_1 - C_6 -alkoxy- C_1 - C_6 alkyl; C_1 - C_6 alkoxy- C_1 - C_6 alkoxy; C_1 - C_6 alkoxy- C_1 - C_6 alkoxy- C_1 - C_6 alkyl;

20 C_2 - C_{12} alkenyloxy; C_2 - C_{12} alkenyloxy- C_1 - C_6 alkoxy; C_3 - C_8 cycloalkoxy; C_1 - C_{12} haloalkoxy; C_1 - C_{12} alkylthio; C_3 - C_8 cycloalkylthio; C_1 - C_{12} haloalkylthio; C_1 - C_{12} alkylsulfinyl; C_3 - C_8 cycloalkylsulfinyl; C_1 - C_{12} haloalkylsulfinyl; C_3 - C_8 halocycloalkylsulfinyl; C_1 - C_{12} alkylsulfonyl; C_3 - C_8 cycloalkylsulfonyl; C_1 - C_{12} haloalkylsulfonyl; C_3 - C_8 halocycloalkylsulfonyl; C_2 - C_8 alkenyl; C_2 - C_8 alkynyl; $-NH(C_1$ - C_6 alkyl); $-N(C_1$ - C_6 alkyl) $_2$; $-C(=O)R_6$; $-NHC(=O)R_7$; $-P(=O)(OC_1$ - C_6 alkyl) $_2$; aryl; hetero-

cyclyl; aryloxy; and heterocyclyloxy;

wherein the aryl, heterocyclyl, aryloxy and heterocyclyloxy radicals are unsubstituted or, depending upon the possibilities of substitution at the ring, mono- to penta-substituted by substituents selected from the group consisting of

5 OH; halogen; CN; NO₂; C₁-C₁₂alkyl; C₃-C₈cycloalkyl; C₁-C₁₂haloalkyl; C₁-C₁₂alkoxy; C₁-C₁₂haloalkoxy; C₁-C₁₂alkylthio; C₁-C₁₂haloalkylthio; C₁-C₁₂alkylsulfinyl; C₁-C₁₂alkylsulfonyl; C₁-C₆alkoxy-C₁-C₆alkyl; dimethylamino--C₁-C₆alkoxy; C₂-C₈alkenyl; C₂-C₈alkynyl; phenyl-C₁-C₆alkyl; phenoxy that is unsubstituted or substituted by from one to three substituents selected

10 independently of one another from halogen, methoxy, trifluoromethyl and trifluoromethoxy; phenyl-C₁-C₆alkoxy that is unsubstituted or substituted in the aromatic ring by from one to three substituents selected independently of one another from halogen, methoxy, trifluoromethyl and trifluoromethoxy; phenyl-C₂-C₆alkenyl; phenyl-C₂-C₆alkynyl; methylenedioxy; -C(=O)R₆;

15 -O-C(=O)R₇; -NH-C(=O)R₇; -NH₂; -NH(C₁-C₁₂alkyl); -N(C₁-C₁₂alkyl)₂; C₁-C₆alkylthio; C₁-C₆alkylsulfinyl; C₃-C₈cycloalkylsulfinyl; C₁-C₆haloalkylsulfinyl; C₃-C₈halocycloalkylsulfinyl; C₁-C₆alkylsulfonyl; C₃-C₈cycloalkylsulfonyl; C₁-C₆haloalkylsulfonyl; and C₃-C₈halocycloalkylsulfonyl;

R₄ is H; C₁-C₈alkyl; C₁-C₈alkyl that is mono- to hepta-substituted by substituents

20 selected from the group consisting of halogen, nitro, C₁-C₈alkoxy, aryloxy, OH, SH, -NH₂, -NH(C₁-C₁₂alkyl) and -N(C₁-C₁₂alkyl)₂; C₁-C₈alkoxy; halo-C₁-C₈alkoxy; C₃-C₈cycloalkyl; C₃-C₈cycloalkoxy; C₂-C₈alkenyl; halo-C₂-C₈alkenyl; C₂-C₈alkenyloxy; halo-C₂-C₈alkenyloxy; C₂-C₈alkynyl; C₂-C₈alkynyloxy; -NH₂; -NH(C₁-C₁₂alkyl); -N(C₁-C₁₂alkyl)₂; aryl; aryloxy; benzyl; benzyloxy; heterocyclyl; heterocyclyloxy; heterocyclylmethyl; heterocyclylmethoxy; -NH-aryl;

25 -NH-heterocyclyl; -N(C₁-C₆alkyl)-aryl; or -N(C₁-C₆alkyl)-heterocyclyl;

wherein the radicals aryl, aryloxy, benzyl, benzyloxy, heterocyclyl, heterocyclyloxy, heterocyclylmethyl, heterocyclylmethoxy, -NH-aryl, -NH-heterocyclyl, -N(C₁-C₆alkyl)-aryl and -N(C₁-C₆alkyl)-heterocyclyl are unsubstituted or, depending upon the possibilities of substitution at the ring, are in the ring

30 substituted by from one to three substituents selected independently of one another from halogen, C₁-C₁₂alkyl, C₁-C₁₂haloalkyl, C₁-C₁₂alkoxy, C₁-C₁₂haloalkoxy, C₁-C₆alkoxy-C₁-C₆alkoxy, C₁-C₁₂alkylthio, C₁-C₁₂haloalkylthio, C₁-C₁₂alkylsulfinyl, C₁-C₁₂alkylsulfonyl, C₂-C₈alkenyloxy, C₂-C₈alkynyloxy, nitro, -N₃, and cyano;

R_5 is C_1 - C_8 alkyl, C_3 - C_8 cycloalkyl, C_2 - C_8 alkenyl, C_2 - C_8 alkynyl, benzyl, $-C(=O)-R_8$ or $-C(=S)-R_8$;

R_6 is H; OH; SH; C_1 - C_8 alkyl; C_1 - C_8 alkyl which is mono- to hepta-substituted by substituents selected from the group consisting of halogen, nitro, C_1 - C_8 alkoxy, aryloxy, OH, SH, $-NH_2$, $-NH(C_1-C_{12}alkyl)$ and $-N(C_1-C_{12}alkyl)_2$; C_1 - C_8 alkoxy; halo- C_1 - C_8 alkoxy; C_3 - C_8 cycloalkyl; C_3 - C_8 cycloalkoxy; C_2 - C_8 alkenyl; C_2 - C_8 alkenyloxy; C_2 - C_8 alkynyl; C_2 - C_8 alkynyloxy; $-NH_2$; $-NH(C_1-C_{12}alkyl)$; $-N(C_1-C_{12}alkyl)_2$; aryl; aryloxy; benzyl; benzyloxy; heterocyclyl; heterocyclyloxy; heterocyclylmethyl; or heterocyclylmethoxy;

wherein the radicals aryl, aryloxy, benzyl, benzyloxy, heterocyclyl, heterocyclyloxy, heterocyclylmethyl and heterocyclylmethoxy are unsubstituted or, depending upon the possibilities of substitution at the ring, are substituted by from one to three substituents selected independently of one another from halogen, C_1 - $C_{12}alkyl$, C_1 - $C_{12}haloalkyl$, C_1 - $C_{12}alkoxy$, C_1 - $C_{12}haloalkoxy$, C_1 - $C_6alkoxy-C_1-C_6alkoxy$, C_1 - $C_{12}alkylthio$, C_1 - $C_{12}haloalkylthio$, C_1 - $C_{12}alkylsulfinyl$, C_1 - $C_{12}alkylsulfonyl$, C_2 - $C_8alkenyloxy$, C_2 - $C_8alkynyloxy$, nitro, $-N_3$, and cyano;

R_7 is H, C_1 - $C_{12}alkyl$, C_1 - $C_6alkoxy-C_1-C_6alkyl$, C_1 - $C_{12}haloalkyl$, C_2 - $C_8alkenyl$, C_2 - $C_8alkynyl$, aryl, heterocyclyl, benzyl, $-NH_2$, $-NH(C_1-C_{12}alkyl)$, $-N(C_1-C_{12}alkyl)_2$, $-NH$ -phenyl or $-N(C_1-C_{12}alkyl)$ -phenyl;

R_8 is H, OH, SH, $-NH_2$, $-NH(C_1-C_{12}alkyl)$, $-N(C_1-C_{12}alkyl)_2$, C_1 - $C_{12}alkyl$, C_1 - $C_{12}haloalkyl$, C_1 - $C_{12}alkoxy$, C_1 - $C_{12}haloalkoxy$, C_1 - $C_6alkoxy-C_1-C_6alkyl$, C_1 - $C_6alkoxy-C_1-C_6alkoxy$, C_1 - $C_{12}alkylthio$, C_1 - $C_{12}alkylsulfinyl$, C_1 - $C_{12}alkylsulfonyl$, C_2 - $C_8alkenyloxy$, C_2 - $C_8alkynyloxy$, phenyl, phenoxy, benzyloxy, $-NH$ -phenyl, $-N(C_1-C_6alkyl)$ -phenyl, $-NH-C_1-C_6alkyl-C(=O)-R_9$, $-N(C_1-C_6alkyl)-C_1-C_6alkyl-C(=O)-R_9$, or phenyl, phenoxy, benzyloxy, $-NH$ -phenyl or $-N(C_1-C_6alkyl)$ -phenyl, each of which is substituted in the aromatic ring by from one to three substituents selected independently of one another from halogen, C_1 - $C_6alkoxy$, C_1 - $C_6haloalkyl$ and C_1 - $C_6haloalkoxy$; and

R_9 is H, OH, C_1 - $C_{12}alkyl$, C_1 - $C_{12}alkoxy$, C_1 - $C_6alkoxy-C_1-C_6alkoxy$, C_2 - $C_8alkenyloxy$, phenyl, phenoxy, benzyloxy, $-NH_2$, $-NH(C_1-C_{12}alkyl)$, $-N(C_1-C_{12}alkyl)_2$, $-NH$ -phenyl or $-N(C_1-C_{12}alkyl)$ -phenyl;

and, where applicable, to E/Z isomers, mixtures of E/Z isomers, diastereomers and/or tautomers, in each case in free form or in salt form.

2. A pesticidal composition comprising as active ingredient at least one compound of formula (I) as defined in claim 1, and at least one adjuvant.

3. A method of controlling pests, which comprises applying a composition as defined in claim 2 to the pests or to their habitat.

5 4. A process for the preparation of a composition comprising at least one adjuvant, as defined in claim 2, which comprises intimately mixing and/or grinding the active ingredient with the adjuvant(s).

5. Use of a compound of formula (I) as defined in claim 1 in the preparation of a composition as defined in claim 2.

6. Use of a composition as defined in claim 2 in controlling pests.

10 7. A method for the protection of plant propagation material, which comprises treating the propagation material or the planting site of the propagation material with a pesticidal composition as defined in claim 2.

8. Plant propagation material treated in accordance with the method defined in claim 7.

9. A tank mix composition comprising a pesticidal composition defined in claim 2.